

AMENDMENTS TO THE CLAIMS

Listing of Claims:

1-44. (Cancelled)

45. (Previously presented) A method for the production of starch and/or oil, comprising growing a transformed plant that overexpresses at least one hemoglobin and recovering the starch and/or oil from said transformed plant, wherein the expression of the at least one hemoglobin results in an increase in starch and/or oil content in the transformed plant.

46. (Cancelled)

47. (Previously presented) The method of claim 45, wherein the hemoglobin is from a plant selected from the group consisting of *Lupinus luteus*, *Glycine max*, *Medicago sativa*, *Medicago trunculata*, *Phaseolus vulgaris*, *Vicia faba*, *Pisum sativum*, *Vigna unguiculata*, *Lotus japonicus*, *Psophocarpus tetragonolobus*, *Sesbania rostrata*, *Casuarina glauca*, *Canvalaria lineate*, *Physcomitrella patens*, *Arabidopsis thaliana*, *Gossypium hirsutum*, *Oryza sativa*, *Brassica napus*, *Lycopersicon esculentum*, *Hordeum vulgare*, *Zea mays*, *Trema tomentosa*, and *Parasponia rigida*.

48. (Previously presented) The method of claim 45, wherein the hemoglobin is from *Arabidopsis thaliana*.

49. (Previously presented) The method of claim 45, wherein the hemoglobin is expressed in a storage-organ-specific manner.

50. (Previously presented) The method of claim 45, wherein the hemoglobin is expressed in a tuber-specific, seed-specific, or tuber- and seed-specific manner.

51. (Previously presented) The method of claim 45, wherein the hemoglobin is encoded by a nucleotide sequence having at least 95% identity with the nucleotide sequence as set forth in SEQ ID NO: 5 and the transformed plant produces an increased amount of storage reserves.

52. (Previously presented) The method of claim 45, wherein the hemoglobin is encoded by the nucleotide sequence as set forth in SEQ ID NO: 5.

53. (Previously presented) The method of claim 45, wherein the transformed plant is a monocotyledonous crop plant.

54. (Previously presented) The method of claim 45, wherein the transformed plant is a *Gramineae* species.
55. (Previously presented) The method of claim 45, wherein the transformed plant is a dicotyledonous crop plant.
56. (Previously presented) The method of claim 45, wherein the transformed plant is a *Asteraceae*, *Brassicaceae*, *Compositae*, *Cruciferae*, *Cucurbitaceae*, *Leguminosae*, *Rubiaceae*, *Solanaceae*, *Sterculiaceae*, *Theaceae* or *Umbelliferae* species.
57. (Previously presented) The method of claim 45, wherein the transformed plant is selected from the group consisting of *Borago officinalis* (borage), *Brassica campestris*, *Brassica napus*, *Brassica rapa* (mustard or oilseed rape), *Cannabis sativa* (hemp), *Carthamus tinctorius* (safflower), *Cocos nucifera* (coconut), *Crambe abyssinica* (crambe), *Cuphea* species, *Elaeis guinensis* (African oil palm), *Elaeis oleifera* (American oil palm), *Glycine max* (soybean), *Gossypium hirsutum* (American cotton), *Gossypium barbadense* (Egyptian cotton), *Gossypium herbaceum* (Asian cotton), *Helianthus annuus* (sunflower), *Linum usitatissimum* (linseed or flax), *Oenothera biennis* (evening primrose), *Olea europea* (olive), *Oryza sativa* (rice), *Ricinus communis* (castor-oil plant), *Sesamum indicum* (sesame), *Triticum* species (wheat), *Zea mays* (maize), walnut and almond.
58. (Previously presented) The method of claim 45, wherein the transformed plant is potato, *Arabidopsis thaliana*, soybean or oilseed rape.
59. (Previously presented) The method of claim 45, wherein the transformed plant is a T2 plant.
60. (Previously presented) A method of achieving a better utilization of areas under cultivation or a better utilization of fertilizer, comprising growing transformed plants that overexpress at least one hemoglobin in said area, wherein the expression of the hemoglobin increases the storage reserve content in storage organs of the transformed plant.
61. (Currently amended) The method of claim 45, wherein the expression of the at least one hemoglobin results in an increase in starch content in the transformed plant is increase.
62. (Cancelled)

63. (New) A method for the production of oil, comprising growing a transformed plant that overexpresses at least one hemoglobin in a seed specific manner and recovering the oil from the seeds of said transformed plant, wherein the expression of the at least one hemoglobin results in an increase in oil content in the seeds of the transformed plant.